

ORIGINATION FORM

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(The person who receives or originates the issue and needs to forward the issue for action.)

Specification: SECTION 784
Subject: Update of functional requirements and minor grammatical change.

Origination date: May 31, 2011
Originator: Gene Glotzbach
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850-410-5600

Problem statement: Updates to functional requirements for the data rates and programmable bit rates for encoders/decoders are necessary based on device evaluations at the Traffic Engineering Research Laboratory.

Proposed solution: Removed unnecessary/incorrect use of word "encapsulate" in DVD, DVE system description. Removed requirement for 485 serial data interface since 232 and 422 are more commonly utilized and supported by approved devices. Lowered maximum programmable serial data rate specified from 230 to 115 kbps and removed defined minimum programmable bit rate range for stream.

Information source: Traffic Engineering and Operations Office

Recommended Usage Note:

Estimated fiscal impact, if implemented: None

Implementation of these changes, if and when approved, will begin with the Jan 2012 letting.

For State Specifications Office Use Only

Begin date:
File Number:
Scheduled completion date:
Implementation date:
Implementation team member:
Usage Note:

Notes:



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M E M O R A N D U M

DATE: June 15, 2011
TO: Specification Review Distribution List
FROM: Rudy Powell, Jr., P.E., State Specifications Engineer
SUBJECT: Proposed Specification: 7840302 ITS – Network Devices

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

The changes are proposed by Gene Glotzbach to update functional requirements for the data rates and programmable bit rates for encoders/decoders based on device evaluations at the traffic Engineering Research Laboratory.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or to my attention via e-mail at SP965RP or rudy.powell@dot.state.fl.us. Comments received after **July 12, 2011** may not be considered. Your input is encouraged.

RP/ft
Attachment

INTELLIGENT TRANSPORTATION SYSTEMS – NETWORK DEVICES.

(REV ~~11-10-105-31-11~~) (~~FA 1-24-11~~) (~~7-11~~)

SUBARTICLE 784-3.2.1 (of the Supplemental Specifications) is deleted and the following substituted:

784-3.2.1 General: Use DVEs and DVDs that are specialized network-based hardware devices and software which allow video and data signals to be ~~encapsulated and~~ transmitted across IP networks. Ensure that the video and data packets produced by the DVE and placed onto the network allow reconstruction of digital video signals by hardware-based and software-based DVDs that are also attached to the network.

Ensure that the complete video and data transmission system, defined as the combination of DVE and DVD hardware together with the existing or planned network infrastructure, simultaneously transports video and data from multiple remote field locations to multiple monitoring locations for roadway surveillance and traffic management. Ensure that end-to-end transmission of 30 frames-per-second (fps) D1 resolution video and data signals from DVE inputs to DVD outputs occurs within 250 milliseconds.

SUBARTICLE 784-3.2.3 (of the Supplemental Specifications) is deleted and the following substituted:

784-3.2.3 MPEG-2 Format: Furnish DVE and DVD components that utilize the Moving Picture Experts Group's MPEG-2 video compression technology in accordance with the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) requirements detailed in the ISO/IEC 13818 standard. Ensure that the DVE and DVD are capable of unicast and multicast operation, and that they support the Session Announcement Protocol (SAP) as recommended by the Internet Engineering Task Force (IETF) RFC 2974. Ensure that the DVE provides 99.999% error-free operation. Ensure MPEG-2 DVE and DVD equipment supports programmable bit rates ~~from 1 Mbps to 8 Mbps~~. Ensure that MPEG-2 equipment supports fixed bit rate mode.

SUBARTICLE 784-3.2.4 (of the Supplemental Specifications) is deleted and the following substituted:

784-3.2.4 H.264 Format: Furnish DVE and DVD components that utilize video compression technology in accordance with the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) requirements detailed in the ISO/IEC 14496-10:2009 standard. Ensure that the DVE and DVD are capable of unicast and multicast operation, and that they support the Session Announcement Protocol (SAP) as recommended by the Internet Engineering Task Force (IETF) RFC 2974, and Real Time Streaming Protocol (RTSP). Ensure that the DVE provides 99.999% error-free operation. Ensure H.264 DVE and DVD equipment supports programmable bit rates ~~from 64 kbps to 8 Mbps~~. Ensure that H.264 equipment supports fixed bit rate mode.

SUBARTICLE 784-3.2.9 (of the Supplemental Specifications) is deleted and the following substituted:

784-3.2.9 Serial Interface: Ensure that hardware-based DVEs and DVDs provide a minimum of one serial data ~~interface and connector that conforms to EIA-232/422/485 standards. Ensure that the serial~~ interface *that* supports ~~2-wire and 4-wire EIA/TIA-232 and TIA-422. EIA-485 connections.~~ Ensure that the serial port(s) support data rates up to ~~230-115~~ kbps; error detection procedures utilizing parity bits (i.e., none, even, and odd); and stop bits (1 or 2).

Ensure that hardware-based DVEs and DVDs provide a TCP/IP interface to their serial port using a network socket connection with configurable IP address and port number. Serial interface ports may utilize RJ-45 connectors, D-sub connectors, or screw terminals.